

Allan's Challenge

by Arya Akhavan (March 2015)

Angles for R.I. = 1.540

76 + 13 girdles = 89 facets

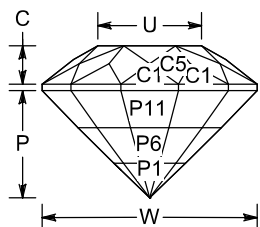
1-fold, mirror-image symmetry

96 index

L/W = 1.466 T/W = 0.785 U/W = 0.483

P/W = 0.499 C/W = 0.178

Vol./W³ = 0.326



PAVILION

P1	43.91°	96-08-16-24-72-80-88	Cut to centerpoint.
P2	42.91°	28-68	Meet at culet.
P3	42.02°	29-67	Meet at culet.
G1	90.00°	96-08-16-24-72-80-88	Set stone size.
G2	90.00°	28-68	Level girdle.
G3	90.00°	33-63	Meet P2, P3, G2
P4	43.65°	33-63	Level girdle.
P5	41.50°	35-61	Meet P3, P4
G4	90.00°	35-61	Level girdle.
P6	44.90°	96-08-16-24-72-80-88	Cut even step to 1/3.
P7	43.91°	28-68	Meet P1, P2, P6
P8	43.02°	29-67	Meet P2, P3, P7
P9	44.64°	33-63	Meet P3, P4, P8
P10	42.49°	35-61	Meet P4, P5, P9
P11	45.91°	96-08-16-24-72-80-88	Cut even step to 1/3.
P12	44.91°	28-68	Meet P6, P7, P11; level girdle.
P13	44.02°	29-67	Meet P7, P8, P12
P14	45.65°	33-63	Meet P8, P9, P13; level girdle.
P15	43.49°	35-61	Meet P9, P10, P14; level girdle.

CROWN

C1	38.00°	96-08-16-24-72-80-88	Set girdle width.
C5	32.00°	04-12-20-76-84-92	Meet G1, C1
C2	34.00°	28-68	Level girdle.
C8	26.00°	96-16-80	Meet C1, C5
T	0.00°	Table	Meet 4x unique meetpoints.
C3	38.00°	33-63	Level girdle.
C4	38.00°	35-61	Level girdle.
C9	29.00°	26-70	Meet C1, C2, C5
C6	31.34°	31-65	Meet G2, G3, C2, C3
C7	34.51°	34-62	Meet G3, G4, C3, C4
C10	30.79°	32-64	Meet C3, C6, C7

This design was written for Allan Aoyama, who asked me a year ago to help him come up with an interesting pear-shaped design with a unique step pavilion and brilliant crown. We posted this to the Gemology Online forums' "From the GPU" section, where users can submit requests, and this was my take on it. Works in materials from quartz to zircon (RI = 1.54 - 1.93) with no changes, but designed for tanzanite.

C:\Users\ARYADE~1\Pictures\Gems\DESIGN~1\WORKSI~1\Done\23ALLA~1.GEM